

Side effects such as nausea, valvulopathy and neuropsychiatric symptoms are well recognized complications of its use. A rare complication is vision loss secondary to empty-sella syndrome. **Clinical case:** A 27-years old women was diagnosed in 2009 with macroprolactinoma with a prolactin level of 2,523.91ng/mL (normal 3.3-26.7ng/mL), during work up of frontal headaches, amenorrhea and infertility. The rest of her pituitary work up was normal. She was started on dopamine receptor agonist therapy with Cabergoline 0.25mg two times a week. Her headaches improved within a few month. The prolactin level normalized and MRI at 1 year after starting Cabergoline therapy showed significant decrease in pituitary adenoma to 3mm. She continued Cabergoline therapy for 3 years, after which time it was discontinued. For the next 6-8 years she was on and off Cabergoline therapy for mild elevation of prolactin and galactorrhea/headache symptoms, with improvement of symptoms on Cabergoline. However, nine years after diagnosis and Cabergoline treatment, she developed vision loss, characterized by bitemporal hemianopia. MRI showed partial empty sella with downward displacement of the optic chiasm. Cabergoline therapy was stopped with some improvement of visual symptoms on exam. Here latest prolactin level is at 134ng/ml. Surgical management with chiasmectomy is being explored. **Conclusion:** Vision loss secondary to optic nerve traction from chiasmal herniation in the setting of an empty sella can be a consequence of Cabergoline therapy. No predictors or risk factors are known for the development of this complication. Furthermore, no clear evidence is available of benefit from discontinuation/continuation of therapy. Novel surgical management with chiasmectomy is being explored as a solution to stabilize the optic chiasm and resolve visual symptoms without further complications.

Neuroendocrinology and Pituitary NEUROENDOCRINOLOGY AND PITUITARY

IGF-1 Levels During Normal Pregnancy

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Pregnancy is associated with a physiological GH excess, where maternal pituitary GH is suppressed by effect of placental GH on the hepatic receptor, increasing IGF-1 serum levels¹. However, it is also described that estrogens and progesterone are responsible for reduction in IGF-1 by direct hepatic action through the inhibition of the JAK-STAT pathway that results in GH resistance, being more clear at the beginning of pregnancy.² Acromegaly is a rare disorder in which GH axis is deregulated and IGF-1 is the most reliable biochemical marker for diagnosis and monitoring. It is known that secondary hypogonadism associated with these pathology decreases fertility rates. Nonetheless, improvement of acromegaly treatment and greater access to assisted reproductive technology increase pregnancy rates

in this population. The follow-up of pregnant acromegalic women acquires relevance for the comorbidities of this association and depends on the adequate interpretation of the IGF-1 values. Then, due to changes in concentration and action of IGF-1 during pregnancy³, it is important that each laboratory establish their specific reference values. For that reason we analyzed serum samples from 80 healthy pregnant women living in the Metropolitan Area of Buenos Aires (AMBA): 22 were in the 1st trimester (1T), 29 in the 2nd (2T) and 29 in the 3rd (3T). All women were between 30 and 40 years old, had no endocrinopathies or metabolic diseases. Serum IGF-1 was measured by Immulite 2000 Siemens, and Prism8 GraphPad was used for statistical analysis, calculating ranges for each trimester defined as 2,5 and 97,5 percentiles. Ranges obtained were: 64,5-165,0 ng/ml, 78,9-201,0 ng/ml and 96,1-344,0 ng/ml for 1T, 2T and 3T, respectively. Significant differences were observed between 3T and the other trimesters (1T and 2T). We also compared these ranges with our reference values from healthy non-pregnant women in the same age, and found that 3T has significantly higher values of IGF-1 (55,8-188,4 ng/ml vs. 96,1-344,0 ng/ml respectively). In conclusion, IGF-1 levels during the first two trimesters of pregnancy remain within the normal range, and there is a significant increase during the third trimester. Given that IGF-1 plays an essential role during pregnancy, it is important to report ranges in healthy pregnant women to contribute in the follow-up of patients with acromegaly who get pregnant. Although our results are in agree with the available literature, it is necessary to increase the number of healthy pregnant women to establish reference values of IGF-1.

¹Frankenne et al (1988). The physiology of growth hormones in pregnant women and partial characterization of the placental GH variant. *Journal of Clinical Endocrinology and Metabolism* 66:1171-1180

²Leung et al (2004). Estrogen regulation of growth hormone action. *Endocrine Reviews* 25:693-72

³Muhammad et al (2017). Pregnancy and acromegaly. *Pituitary* 20:179-184

Neuroendocrinology and Pituitary NEUROENDOCRINE & PITUITARY PATHOLOGIES

Strikingly Low Prevalence of Pituitary Incidentalomas in Our Hospital

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Introduction: Pituitary incidentalomas (PIs) have been reported in 10.6% of autopsies, 4-20% in computed tomography scans (CT) and 10-38% in magnetic resonance imaging (MRI), most of them microincidentalomas (<1cm). They may have autonomous hormonal activity or impair normal gland function. The frequency of PIs in Uruguay is unknown. We aimed to investigate the prevalence of pituitary incidentalomas in our Hospital. Methods: We retrospectively identified all patients who underwent brain CT and MRI at our hospital over a 1-year period for disorders

other than known or suspected pituitary disease. The period covered was from January 1 to December 31, 2017. We reviewed all scans; anamnesis and biochemical evaluation was performed on patients who presented PIs. Results: During this period 3894 patients underwent imaging studies. MRI was performed in 1146 patients, and CT in 2748 of them. Mean age was 53.1 ± 19 years, with similar gender distribution (50.6% women). Most imaging studies were ordered in the emergency department (43%), followed by the outpatient clinics (29%) and inpatient wards (28%). Most common reasons that led to request the image were trauma (20.4%), headaches (11.3%) and stroke (10.9%). We detected two PIs, which accounts for a prevalence of 5 cases per 10,000 individuals per year (0.05%). Both were detected by CT, with a MRI done later to further evaluate them. Final diagnosis was of a vascular aneurysm and a sellar meningioma. Work-up showed a secondary hypothyroidism in the patient with the sellar meningioma. No cases of pituitary adenomas were found. Discussion: We observed a strikingly lower prevalence of PIs than that reported in the literature. In addition, no PIs were found in MRI. Moreover, no pituitary adenoma was discovered. The reasons for these findings are unknown. In our study scans were not focused to the pituitary fossa so small lesions may have been missed. However, Esteves et al(1) reported a prevalence of PIs 5.8% in 1232 patients who had head MRI/CT, not pituitary MRI. In addition, the majority were pituitary adenomas, almost 40% of them microadenomas. Slices of 2-mm thickness were obtained in the scans, similar to imaging techniques used in other studies. Most reports have longer study duration (3-5 years). Our hospital is a teaching hospital where fellows evaluate scans initially, which are then reevaluated by neuroradiologists. This may account for the prevalence found, as sensitivity may be lower when professionals in training evaluate scans. In addition, frequency of pituitary hypointensity areas may decrease as the number of reviewers increase. Furthermore, this low prevalence could be related to difference in population characteristics. Conclusions: We found a very low prevalence of PIs in our hospital. More studies are warranted to further investigate frequency of PIs in our country. (1)Esteves et al. Pituitary. 2015;18(6):777-81.

Healthcare Delivery and Education

EXPANDING CLINICAL CONSIDERATIONS FOR PATIENT TESTING AND CARE

The Implementation of a Scholarly Activity Curriculum: Impact Assessment

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Introduction:

As detailed in the 2018 ACGME Common Program Requirements statement for fellowship institutions, “The physician is a humanistic scientist who cares for patients. This requires the ability to think critically, evaluate the literature, appropriately assimilate new knowledge, and practice lifelong learning.” Endocrinology fellowship

programs are tasked with the expectation of creating an environment that fosters scholarly pursuit. It is under the discretion of each program to consider its institutional resources and community needs in order to meet this ACGME requirement.¹

With the goal of enhancing trainee scholarly activity, our fellowship program created a Scholarly Activity Curriculum in 2017. The core curriculum pillars include delineating a yearly timeline of objectives and expectations, facilitating regular individual mentoring, permitting allotment of protected time, and advocating involvement in faculty scholarship and national conferences.

Objective:

To assess the impact of the 2017 Endocrinology Fellowship Scholarly Activity Curriculum with respect to its ability to increase trainee scholarship.

Methods:

The scholarly activities of the fellowship classes of 2017-2020 were extracted from archived Fellow Scholarly Activity Update presentations and exit-interview curricula vitae. The activities were categorized as conference presentations (oral/poster), basic scientific research, clinical scientific research, quality improvement, book chapters, review articles, case reports, and teaching activities. With the 2017 and 2018 classes representing the pre-curriculum study group and the 2019 and 2020 classes representing the post-curriculum study group, the number of activities per study group per scholarly category were tabulated and compared.

Results:

An increase in scholarly activity was noted in five of the delineated categories: conference presentations (80%), clinical scientific research (86%), review articles (100%), case reports (100%), and teaching activities (38%). The remaining three categories of basic scientific research, quality improvement, and book chapters showed no change.

Conclusions:

The implementation of the 2017 Endocrinology Fellowship Scholarly Activity Curriculum was associated with a rise in trainee scholarly activity. Four of eight categories showed an 80% or more increase. Interestingly, the fellows involved in basic scientific research both pre and post-curriculum implementation were limited to those in the Specialty Training and Advanced Research (STAR) Program. Finally, identifying the need to increase involvement in quality improvement research, our program has implemented a 2019 Quality Improvement Curriculum.

¹Common Program Requirements (Fellowship). ACGME. <https://www.acgme.org/What-We-Do/Accreditation/Common-Program-Requirements>. 2018. Accessed Nov 2019.

Thyroid

THYROID NEOPLASIA AND CANCER

Thyroseq V3 GC for Bethesda III and IV: An Institutional Experience

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